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Title: Psychological distress amongst primary school teachers: a comparison with clinical and population samples

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Corresponding Author: Dr. Daniel Andrew Hetrell Titheradge, BMBCh, BA

Corresponding Author's Institution: Avon and Wiltshire Mental Health Partnership NHS Trust

First Author: Daniel Andrew Hetrell Titheradge, BMBCh, BA

Order of Authors: Daniel Andrew Hetrell Titheradge, BMBCh, BA; Rachel Hayes; Bryony Longdon; Kate Allen; Anna Price; Lorraine Hansford; Elizabeth Nye; Obioha C Ukoumunne; Sarah Byford; Brahm Norwich; Malcolm Fletcher; Stuart Logan; Tamsin Ford

Abstract: Objectives: This analysis explored the level of psychological distress among primary school teachers in the South West of England as compared to clinical and general population samples.

Study design: Secondary analysis of data from the Supporting Teachers And childRen in Schools (STARS) trial completed by up to 90 teachers at baseline, 9, 18 and 30 months of follow up.

Methods: We used the Everyday Feelings Questionnaire (EFQ) as a measure of psychological distress. Baseline data on teachers were compared with a population sample of professionals and a clinical sample of patients attending a depression clinic.

Results: Our teacher cohort experienced higher levels of psychological distress than comparable professionals from the general population, which were sustained over 30 months follow-up. Levels of psychological distress were lower than those found in the clinical sample. Using a cut-point indicative of moderate depression, our data suggest between 19% and 29% of teachers experienced clinically significant distress at each time-point.

Conclusions: We detected high and sustained levels of psychological distress among primary school teachers, which suggests an urgent need for intervention. Effective support for teachers' mental health is particularly important given the potential impact of poor teacher mental

health on pupil wellbeing, pupil attainment and teacher-pupil relationships.

Psychological distress amongst primary school teachers: a comparison with clinical and population samples

Corresponding Author:

Name: Dr Daniel Titheradge
Correspondence Address: Wickham Low Secure Unit, Blackberry Hill Hospital, Bristol BS16 1EG
Email for correspondence: Daniel.Titheradge@nhs.net

Authors:

Daniel Titheradge¹, Rachel Hayes², Bryony Longdon², Kate Allen², Anna Price², Lorraine Hansford², Elizabeth Nye³, Obioha C Ukoumunne⁴, Sarah Byford⁵, Brahm Norwich⁶, Malcolm Fletcher², Stuart Logan⁴, Tamsin Ford²

Author Institutions:

- 1: Avon and Wiltshire Mental Health Partnership NHS Trust, Bath, BA1 3QE, UK
- 2: Child Mental Health, University of Exeter Medical School, Exeter, Devon, UK
- 3: Department of Social Policy and Intervention, University of Oxford, Oxford, Oxfordshire, UK
- 4: NIHR CLAHRC South West Peninsula (PenCLAHRC), St Luke's Campus, University of Exeter, Exeter, Devon, UK
- 5: King's Health Economics, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK
- 6: Graduate School of Education, University of Exeter, Exeter, Devon, UK

Ethical Approval

Ethical approval was obtained from the University of Exeter Medical Research Ethics Committee (12/03/141).

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Author Contributions

Tamsin Ford, Obioha Ukoumunne, Sarah Byford, Brahm Norwich, Malcolm Fletcher, Stuart Logan were co-applicants on the original STARS trial. Rachel Hayes, Bryony Longdon, Kate Allen, Anna Price, Lorraine Hansford and Elizabeth Nye were all involved in the collection of the data. Tamsin Ford, Obioha Ukoumunne, Daniel Titheradge, Elizabeth Nye, Brahm Norwich and Rachel Hayes conceived the secondary analysis of reported in the current study. Daniel Titheradge and Rachel Hayes led the secondary analysis reported in the current study, which was supervised by Obioha Ukoumunne. All authors contributed to interpretation of the data. All authors contributed to drafting and revision of the article. All authors approved the final manuscript for publication.

Competing Interests

The authors have no competing interests to declare.

Structured Abstract

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Keywords

- Epidemiology
- Common Mental Illness
- Depression
- Teachers
- Public Mental Health
- Occupation

Blinded Manuscript

Teaching is commonly acknowledged to be an extremely stressful occupation, with poor and possibly worsening retention in the UK². Mental health problems are a major cause of absence from work and the leading cause of exit from the teaching profession³. There is, however, little empirical data about the level of psychological distress reported by teachers. This secondary analysis explored the level, persistence, and correlates of psychological distress among primary school teachers who participated in the Supporting Teachers And childRen in Schools (STARS) trial⁴.

STARS was a cluster randomised controlled trial designed to evaluate whether the Incredible Years® Teacher Classroom Management (TCM) course improved individual children's mental health. Schools across the South West of England were invited to take part if they had a single-year class with 15 or more children aged between 4 and 8 years. Headteachers were asked to nominate one teacher, who taught a class within the set criteria for at least four days per week, to participate in the STARS trial and be randomised to attend a TCM course or teach as usual. Headteachers provided written consent for the school's participation, and teachers consented for their involvement after nomination by their headteacher. Compared with the national average, participating schools had similar class sizes and eligibility for free school meals. Each school participated for three academic years. Data collection occurred at different times during the academic year. Baseline data were collected in the first half of the autumn term (September / October Year 1), with three follow-ups at 9-months (June Year 1), 18-months (February/ March Year 2), and 30-months (February / March Year 3).

Teacher mental health was a secondary outcome of the STARS trial and participating teachers were asked to complete the Everyday Feelings Questionnaire (EFQ)⁵ at each data collection timepoint. The EFQ is a 10-item measure that asks about the previous four weeks; half of the items focus on well-being and half on distress. The total score ranges from 0 to 40, with higher scores indicating greater distress. In this secondary analysis we used both intervention and control teacher data since the intervention had no detectable effect on teachers' mental health⁴.

To explore the level of psychological distress among teachers in the study, we compared baseline teacher data with a population-representative sample of professionals (n=2109)¹, and with a clinical sample of adults who attended a depression clinic assessment (n= 105)⁵. The population-representative sample was comprised of parents from the British Child and Adolescent Mental Health Survey 2004 who were classified as "professional or managerial occupations" according to the standard National Statistics socio-economic classification (NS-SEC) applied at the time¹. The clinical sample were invited from consecutive referrals who attended the AccEPT NHS clinic in the Mood Disorders Centre at the University of Exeter between November 2008 and September 2009. This primary care clinic accepts referrals from General Practitioners (GP's) or the local Mental Access and Wellbeing service. The AccEPT clinic has the following inclusion criteria: aged 18 or over, current depression defined as above a score of 15 in the Patient Health Questionnaire, resident in Exeter or East Devon and able to engage in psychological therapy⁵.

We used one-sample t-tests to compare teachers' mean baseline EFQ scores with those in each of the population-representative and clinical samples. These analyses were based on raw data from the teachers and mean scores from the groups they were compared with.

In addition to the EFQ the participants in the clinical sample⁵ also completed the Patient Health Questionnaire (PHQ)⁶ and the Beck Depression Inventory (BDI)⁷. Using data from the clinical sample we compared EFQ, BDI and PHQ scores to establish a cut-point on the EFQ indicative of clinically-significant distress. We selected an EFQ cut-point of 20 or greater, based on the requirement that

participants should score above the established scores for *moderate* depression on both the BDI and PHQ. All those in the clinical sample who scored 20 or more on the EFQ also scored above the established cut-points for *moderate* depression on both the PHQ and BDI. We conducted logistic regression analysis on baseline data to explore whether the following demographic factors were related to the presence of psychological distress reaching the clinical cut-point among the STARS teachers: age, gender, part or full-time employment status, trial arm status and length of teaching experience.

Ninety (90) teachers provided baseline data, with data from 83, 67 and 55 at the subsequent follow-ups. There was little difference in mean baseline EFQ score between teachers who did and did not provide data at all time points (mean (standard deviation (SD)) 16.2 (7.2) versus 14.9 (6.0)), suggesting that the teachers providing data at the later follow-ups were representative of the original sample.

The mean (SD) EFQ score at baseline was 15.6 (6.7) and, as shown in Figure 1, changed little among respondents over 30 months, with a mean (SD) of 14.6 (6.6) at 9 months, 15.1 (6.7) at 18 months and 15.6 (7.7) at 30 months.

Teachers' mean EFQ scores at baseline were significantly higher than those of the professionals from the population-representative sample (mean 11.4, SD 5.9, $p < 0.0001$) and lower than those of the depression clinic sample (mean 24.9, SD 6.9, $p < 0.0001$).

A surprisingly large percentage of teachers scored above the cut-point (EFQ 20 or above) at each time point; 29% (95% CI 20 to 39%) at baseline and 19%, 22% and 24% at the subsequent follow ups. Of the 52 teachers with data at all timepoints 23 (44%, 95% CI 30 to 59%) scored above the cut-point at least once, while 5 teachers (10%, 95% CI 3 to 21%) consistently reported this level of psychological distress.

[Insert Figure 1 here]

Only increasing age increased the odds of a teacher scoring above the cut-point at baseline in the multivariable logistic regression analysis (OR=1.14, 95% CI: 1.05 to 1.25, $p = 0.003$).

Our findings indicate raised and sustained levels of psychological distress among this cohort of primary school teachers, compared to a sample of professionals from the general population. These findings were consistent throughout the course of the study and across data collected at different times of the academic year. Our results are consistent with high rates of moderate to severe depressive symptoms reported in a recent cross-sectional survey of UK secondary school teachers⁸ in which 19% of teachers scored 10 or more on the PHQ. The 2014 Adult Psychiatric Morbidity Survey estimated the overall prevalence of common mental disorders in adults to be 15.7% (95% CI 14.7 to 16.7%), and also demonstrated increasing symptoms of both depression and common mental disorders with increased age among young and middle-aged adults⁹. The longitudinal element of our study is novel, and the sustained high levels of psychological distress are worrying.

The EFQ is a comparatively new measure, but psychometric studies suggest that it is valid and reliable⁵. Furthermore, the chosen cut-point required participants to score above the established scores for *moderate* depression on both the BDI and PHQ^{6,7} in our clinical comparison sample. We consider this to be a conservative proxy for clinically impairing levels of distress.

This sample of teachers was not randomly selected; rather, each school's headteacher made the decision to participate in STARS and was responsible for nominating the teacher to take part. Qualitative findings from STARS suggest that teachers were selected for a variety of reasons, which

1 included newly qualified teacher status, allocation of a class known to be particularly challenging, or
2 known interest in behaviour management⁴. This sample of teachers may therefore differ from the
3 general population of teachers, but the explanations provided suggest that resilience and logistics as
4 well as vulnerability influenced selection in different institutions. Schools who primarily taught pupils
5 with special educational needs, lacked a substantive headteacher, or were judged as failing in their
6 last inspection by the Office for Standards in Education, Children's Services and Skills were excluded
7 from the trial, which means that our sample omits teachers who are working in particularly
8 challenging environments, where levels of psychological distress may be higher than in the included
9 sample. Finally, we did not have data on all teachers at all timepoints, although poor mental health
10 is an established reason for drop out from research, so attrition would be unlikely to inflate our
11 follow up estimates¹⁰.
12
13

14 The high and sustained levels of psychological distress that we detected among primary school
15 teachers suggest an urgent need for preventative interventions as well as prompt identification of
16 existing difficulties with timely access to support for teachers who need and want it. Effective
17 support for teachers' mental health is particularly important given its potential to adversely
18 influence on pupil well-being, pupil attainment, and teacher-pupil relationships¹¹.
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Figure 1: Boxplots of EFQ over time showing similar distribution

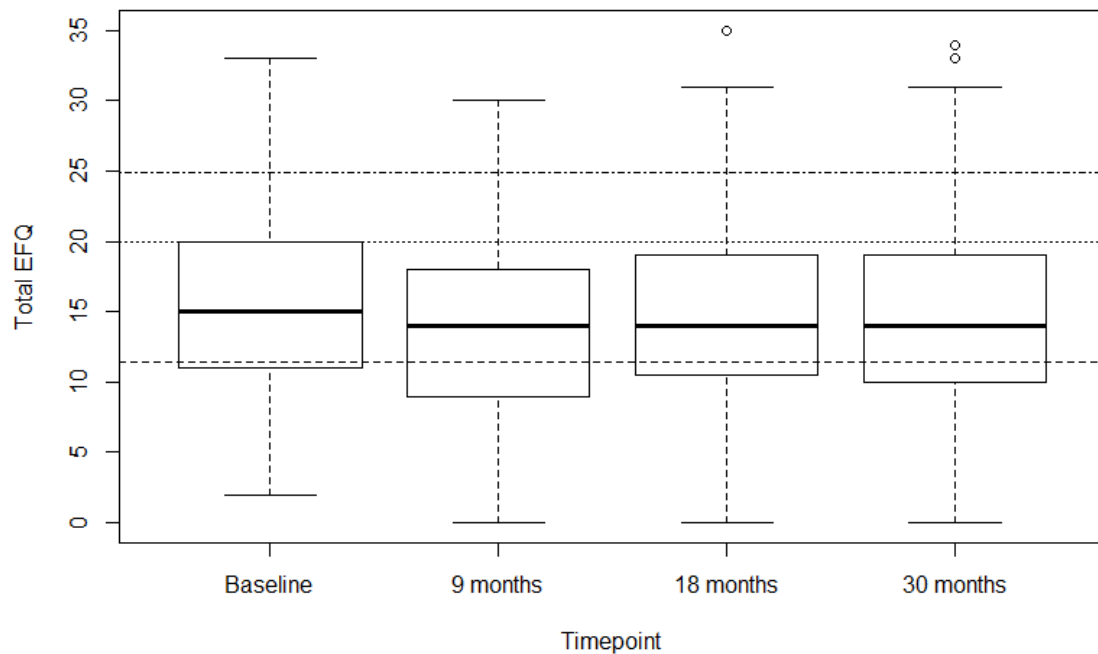
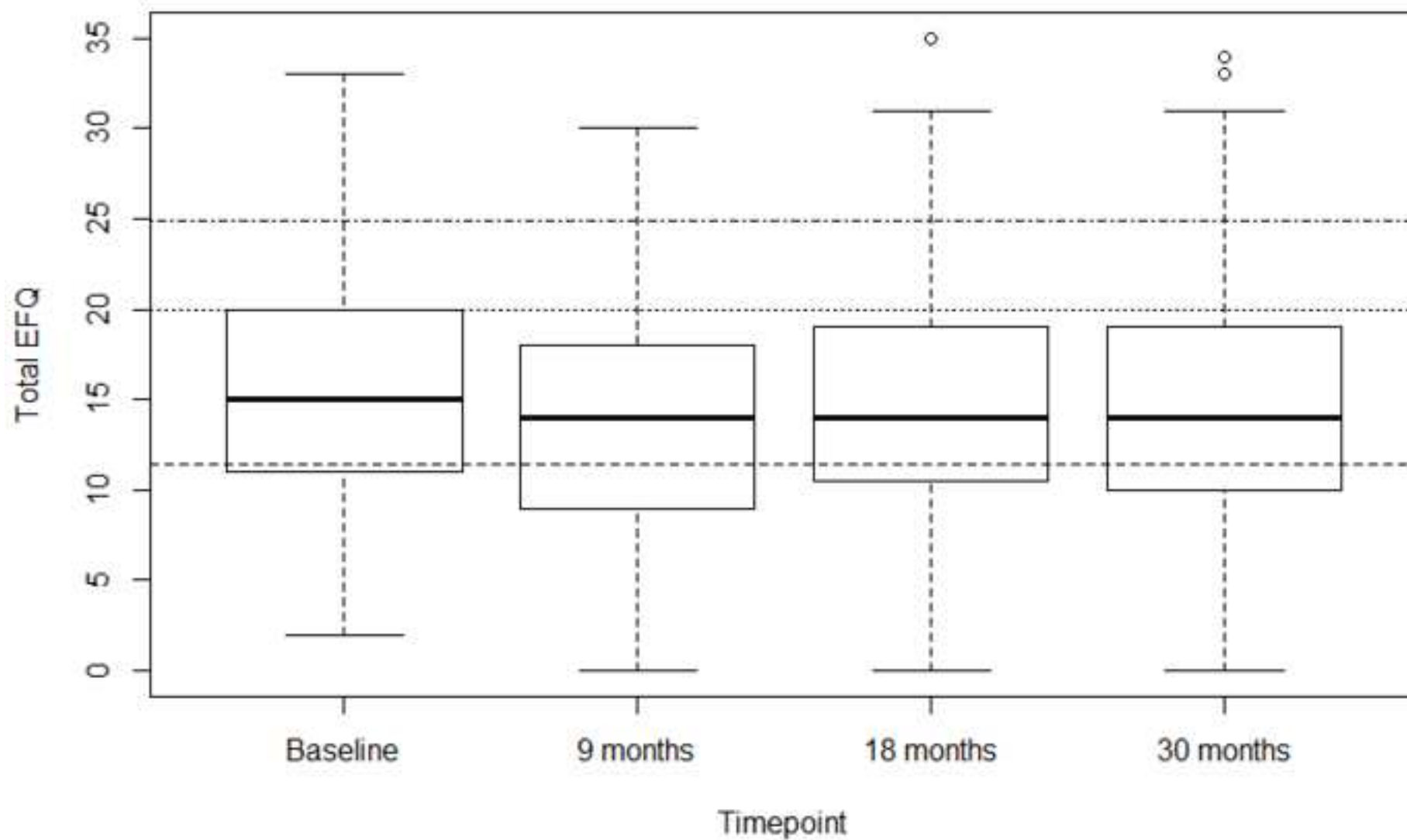


Figure 1 legend: The dotted line marks the clinical cut-point point for EFQ used in this study (EFQ = 20). The dashed line marks the mean EFQ of the population sample of professionals (EFQ = 11.4)¹. The dotted-dashed line marks the mean EFQ of the depression clinic sample (EFQ = 24.9)⁵.

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Figure 1
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Highlights

- Primary school teachers experience high levels of psychological distress.
- These findings were sustained for 10% of the sample from baseline over 30 months follow up.
- More than a fifth of teachers were experiencing distress at a clinically significant level.
- Older teachers experienced higher levels of clinically significant distress.